

Notice of Allowability

Application No.

09/830,515

Examiner

Carramah J. Quiett

Applicant(s)

SUZUKI ET AL.

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendments filed on June 3, 2005.
2. ☒ The allowed claim(s) is/are 1-6 and 8-14 (renumbered 1-13, respectively).
3. ☒ The drawings filed on 03 August 2001 and 03 June 2005 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>062705 and 070105</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ronald P. Kananen on June 22 and 23, 2005.

The application has been amended as follows:

Claim 1 (Currently Amended)

A solid-state image pickup device comprising:

a pixel portion in which unit pixels are arranged in a matrix form;

horizontal signal lines of plural rows which are wired to said pixel portion on a row basis;

plural vertical signal lines which are wired commonly to said horizontal signal lines of plural rows;

vertical driving means of plural systems which select the respective pixels of said pixel portion every row over plural different rows, making the accumulation time of signal charges of each pixel of the plural selected rows different among the plural rows, and successively outputting to said plural vertical signal lines the signals which are output from the respective pixels to said horizontal signal lines of plural rows; and

horizontal driving means for successively selecting the pixels of plural rows which are selected by said plural systems of vertical driving means; wherein

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each of said unit pixels comprises a photoelectric converter, a read-out transistor for reading out a signal charge, accumulated by said photoelectric converter, into a storage unit, a read-out selection transistor for selecting the reading out of the signal charge by said read-out transistor, an amplifying transistor for converting the signal charge stored in said storage unit into an electrical signal and for outputting the electrical signal as a pixel signal, a reset transistor for resetting the storage unit, and an output selection transistor for selecting the output of the pixel signal provided by said amplifying transistor a read out transistor and an output selection transistor; and

said horizontal driving means feeds a horizontal selection pulse to said read out selection transistor and said output selection transistor.

Claim 3 (Currently Amended)

A method of driving a solid-state image pickup device comprising a pixel portion in which unit pixels are arranged in a matrix form, each pixel comprises a photoelectric converter, a read-out transistor for reading out a signal charge, accumulated by said photoelectric converter, into a storage unit, a read-out selection transistor for selecting the reading out of the signal charge by said read-out transistor, an amplifying transistor for converting the signal charge stored in said storage unit into an electrical signal and for outputting the electrical signal as a pixel signal, a reset transistor for resetting the storage unit, and an output selection transistor for selecting the output of the pixel signal provided by said amplifying transistor, horizontal signal lines of plural rows which are wired to the pixel portion on a row basis, and plural vertical signal lines which are wired commonly to the horizontal signal lines of plural rows, characterized by the steps of:

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selecting the respective pixels of the pixel portion every row over plural different rows;
making the accumulation time of signal charges of each pixel of the plural selected rows different among the plural rows;
successively selecting the respective pixels of plural rows thus selected and outputting the signal of each pixel to the corresponding one of the horizontal signal lines of plural rows;
outputting through the plural vertical signal lines the signals which are output from the respective pixels to the horizontal signal lines; and
feeding a horizontal selection pulse to said read out selection transistor and said output selection transistor.

Claim 4 (Currently Amended):

A camera system using as an image pickup device a solid-state image pickup device wherein said solid-state image pickup device comprises:
a pixel portion in which unit pixels are arranged in a matrix form;
horizontal signal lines of plural rows which are wired to said pixel portion on a row basis;
plural vertical signal lines which are wired commonly to said horizontal signal lines of plural rows;
vertical driving means of plural systems which select the respective pixels of said pixel portion every row over plural different rows, making the accumulation time of signal charges of each pixel of the plural selected rows different among the plural rows, and successively outputting to said plural systems of vertical driving means the signals which are output from the respective pixels to said horizontal signal lines of plural rows; and

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horizontal driving means for successively selecting the pixels of plural rows which are selected by said plural systems of vertical driving means; wherein

each of said unit pixels comprises a photoelectric converter, a read-out transistor for reading out a signal charge, accumulated by said photoelectric converter, into a storage unit, a read-out selection transistor for selecting the reading out of the signal charge by said read-out transistor, an amplifying transistor for converting the signal charge stored in said storage unit into an electrical signal and for outputting the electrical signal as a pixel signal, a reset transistor for resetting the storage unit, and an output selection transistor for selecting the output of the pixel signal provided by said amplifying transistor; and

said horizontal driving scans feeds a horizontal selection pulse to said read out selection transistor and said output selection transistor.

2. **Specification:** page 1, line 1 – change the **Title** to: Solid State Imaging Pickup Device With Vertical and Horizontal Driving Means For A Unit Pixel.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carramah J. Quiett whose telephone number is (571) 272-7316. The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (571) 272-7308. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CJQ
July 7, 2005



NGOC-YEN VU
PRIMARY EXAMINER